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## INTERNATIONAL ROCKET PROJECT TO COMPARE OZONE SENSORS

Scientists and engineers from five countries--  
Australia, Canada, India, Japan and the United States--  
have gathered at NASA's Wallops Flight Center on  
Virginia's eastern shore to compare their techniques  
of gathering information about ozone in the Earth's  
stratosphere.

Twenty rocket-borne experiments will be conducted  
during a 14-day period, starting Oct. 21, in an effort  
to establish instrument precision and comparability.  
Resulting ozone data should provide information on ozone  
variability during the 14 days.

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ROCKET PROJECT TO COMPARE OZONE SENSORS  
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Four kinds of rockets--two-stage Nike Orion, single-stage Orion, Super Arcas and Super Loki--will be used to carry the ozone measuring instruments into the stratosphere. The rocket flights will coincide with orbiting satellite overpasses of Wallops for comparison of the rocket measurements with those of the satellites. Meteorological rockets and balloons, as well as ground based equipment, also will be collecting ozone data.

New ground measuring techniques to determine the distribution of ozone in the stratosphere will be tested.

Several of the rocket payloads will be recovered in mid-air by the Wallops Skyvan aircraft.

Rocket-borne instruments in use worldwide employ different physical techniques to measure stratospheric ozone and have never been compared to establish possible systematic errors and other biases in their measurements. A systematic comparison of all the instruments is necessary if rocket ozone data is to serve as "ground truth" verification of satellite measurements, particularly as the latter are coming to be relied upon to detect global ozone trends.

This joint effort is sponsored by the World Meteorological Organization, the Federal Aviation Administration of the Department of Transportation and NASA. Comparison of techniques is an important part of the world organization's Global Ozone Research and Monitoring Project since the use of satellite ozone measurements is placing increased importance on rocket data to verify, calibrate and determine long-term stability of satellite instruments.

Objectives of the rocket flights are to compare the performances of rocket-borne instruments under conditions that will:

- Establish the precision of various rocket ozone instruments;
- Assemble a common data base from rocket sounding;
- Establish reference points for evaluation and use of future data by each experimenter.

By accomplishing the stated objectives, the project should help in providing additional data for:

- Improving the accuracy of rocket ozone data used for validation of satellite ozone sensors

- Establishing a selected set of upper level ozone profiles with greater accuracy;
- Determining ozone trends, if any, at altitude levels where current stratospheric models predict the greatest reduction in ozone densities due to anthropogenic (man-made) pollutants, such as fluorocarbons.

Participating organizations are: University of Adelaide, Australia; University of Saskatchewan and National Research Council, both of Canada; Physical Research Laboratory and Indian Space Research Organization, of India; University of Tokyo and University of Tsukuba, Japan; NASA's Goddard Space Flight Center, Greenbelt, Md., and the Wallops center.